S6161-TX-FSE-010

0910-LP-019-8180

TECHNICAL MANUAL

FOR

COUNTER, COLD, FOOD, MODEL NAV-4-HT-BC-2 DESCRIPTION OPERATION AND MAINTENANCE

"Distribution Statement "A": Approved for public release; distribution is unlimited."

DEPARTMENT OF THE NAVY
NAVAL SEA SYSTEMS COMMAND

APPROVAL AND PROCUREMENT RECORD PAGE

APPROVAL DATA FOR: S6161-TX-FSE-010

TITLE: Technical Manual for Counter, Cold, Food, Model NAV-4-HT-BC-2

APPROVAL AUTHORITY: Not Required

CONTRACT OR PURCHASE ORDER	SHIP APPLICABILITY	QUANTITY OF MANUALS	QUANTITY OF EQUIPMENT	BUILDING YARD
P642D-7502-F841 Item 2	CVN75	3	1	Newport News Shipbuilding

REMARKS:

CERTIFICATION: Not Required

It is hereby certified that the manuals to be provided under purchase order P642D-7502-F841 are exactly identical to S6161-TX-FSE-010, approved by the approval data shown above.

Cospolich Refrigerator Company Inc.
949 Industry Rd.
Kenner, LA 70062
CAGE No. 66682

INSTALLATION, OPERATION AND MAINTENANCE INSTRUCTIONS

MODEL: NAV-4-HT-BC-2

COLD FOOD COUNTER

PO# P642D-7502-F841

ITEM 0002

RTF MANUFACTURING
793 ROUTE 66
HUDSON, NY 12534

MOTOR CHARACTERISTICS & PERFORMANCE DATA

ITEM___
SHEET___OF___

(IF EQUIPMENT CONTAINS MULTIPLE MOTORS. GIVE DATA FOR EACH SEPARATELY)

MANUFACTURER RTF

MASTER DRAWING R00129

CERTIFICATION DATA N/A

AUXILIARY N/A

EQUIPMENT MODEL NO. NAV-4-HT-BC-2

QUANTITY 1

RATING (HP, VOLTS. PHASE) 1/4 HP - 115V - 1 PH

INSULATION POLYURETHANE - 2.4 DENSITY

WEIGHT 502

CYCLES 60

DESIGN MODULAR COLD FOOD COUNTER

TORQUE-STARTING N/A

-FULL LOAD N/A

AMPERS-STARTING COMP. / BLOWER
29.0

-FULL LOAD 5.3 0.8

POWER FACTOR

-F.L.

-3/4

-1/2

-LOCKED

ENCLOSURE

SERVICE

DUTY N/A

TYPE

AMBIENT DEGREE C

F.L. KW

MOTOR FRAME

EQUIPMENT SPECIFICATION MIL -C-43300G

EFFICIENCY

SYMBOL NO.___

SAFETY SUMMARY

THE FOLLOWING ARE GENERAL SAFETY PRECAUTIONS THAT ARE NOT RELATED TO ANY SPECIFIC PROCEDURES AND THEREFORE DO NOT APPEAR ELSEWHERE IN THIS PUBLICATION. THESE ARE RECOMMENDED PRECAUTIONS THAT PERSONNEL MUST UNDERSTAND AND APPLY DURING MANY PHASES OF OPERATION AND MAINTENANCE.

KEEP AWAY FROM LIVE CIRCUITS

OPERATING PERSONNEL MUST AT ALL TIMES OBSERVE ALL SAFETY REGULATIONS. DO NOT REPLACE COMPONENTS OR MAKE ADJUSTMENTS INSIDE THE EQUIPMENT WITH THE HIGH VOLTAGE SUPPLY TURNED ON. UNDER CERTAIN CONDITIONS, DANGEROUS POTENTIALS MAY EXIST WHEN THE POWER CONTROL IS IN THE OFF POSITION, DUE TO CHARGES RETAINED IN CAPACITORS. TO AVOID CASUALTIES, ALWAYS REMOVE POWER AND DISCHARGE AND GROUND A CIRCUIT BEFORE TOUCHING IT.

DO NOT SERVICE OR ADJUST ALONE

UNDER NO CIRCUMSTANCES SHOULD ANY PERSON REACH INTO OR ENTER THE ENCLOSURE FOR THE PURPOSE OF SERVICING OR ADJUSTING THE EQUIPMENT EXCEPT IN THE PRESENCE OF SOMEONE WHO IS CAPABLE OF RENDERING AID.

RESUSCITATION

PERSONNEL WORKING WITH OR NEAR HIGH VOLTAGES SHOULD BE FAMILIAR WITH MODERN METHODS OF RESUSCITATION.

THE FOLLOWING WARNINGS AND CAUTIONS APPEAR IN THE TEXT IN THIS VOLUME, AND ARE REPEATED HERE FOR EMPHASIS.

CAUTION

1. **DO NOT REMOVE HINGES FROM DOORS.**
2. **CHECK ELECTRICAL REQUIREMENT ON EQUIPMENT PLATE TO BE SURE IT IS THE SAME AS BEING SUPPLIED.**
3. **BE SURE POWER IS BEING SUPPLIED TO THE EQUIPMENT IN A CONTINUOUS CIRCUIT.**
4. **THE VOLTAGE SUPPLY SHOULD NOT VARY MORE THAN PLUS OR MINUS 10% OF REQUIRED OPERATING VOLTAGE.**
5. **DO NOT TURN OR CHANGE ANY VALVES OR CONTROL SETTINGS.**
6. **DO NOT USE SHARP POINTED SCRAPING DEVICES, WIRE BRUSHES, OR ABRASIVE CLEANERS.**
7. **DISCONNECT THE CONDENSING UNIT FROM THE POWER LINE BEFORE WORKING AROUND THE CONDENSER.**

GENERAL DATA

THE COLD FOOD COUNTER IS A MECHANICALLY REFRIGERATED, SELF-CONTAINED, SELF SERVICE COUNTER MANUFACTURED IN ACCORDANCE WITH MILITARY SPECIFICATION MIL-C-43300G DATED 88MAY04. THIS COLD FOOD COUNTER IS DESIGNED AS A SELF CONTAINED UNIT. WITH A RECESSED COUNTER TOP COLD WELL, AN AIR-COOLED REFRIGERATION UNIT, AND A REFRIGERATED STORAGE COMPARTMENT, AS FOLLOWS:

1. **REFRIGERATED WELL TOP**-- THIS COLD PAN WELL TOP IS DESIGNED TO HOLD THE APPROPRIATE NUMBER OF SALAD PANS. A COLD PLATE WELL BOTTOM COOLS THE WELL. REMOVABLE COVERS ARE SUPPLIED TO COVER THE WELL WHEN IT IS NOT BEING USED FOR SERVING.

2. **STORAGE COMPARTMENT**--AN INSULATED COMPARTMENT, WITH SHELVES FOR THE STORAGE OF SALAD PANS, IS LOCATED UNDER THE REFRIGERATED WELL TOP.

3. **BLOWER COIL**-- ASSEMBLY IS LOCATED IN, AND COOLS, THE INSULATED STORAGE COMPARTMENT.

4. **DOORS**--AN INSULATED DOOR IS PROVIDED ON THE FRONT OF THE INSULATED STORAGE COMPARTMENT TO PROVIDE ACCESS AND TO INSULATE THE FRONT OF THE STORAGE COMPARTMENT.

5. **UNIT COMPARTMENT**--IS LOCATED TO THE SIDE OF THE INSULATED STORAGE COMPARTMENT. THIS COMPARTMENT CONTAINS THE CONDENSING UNIT AND TEMPERATURE CONTROL. THIS COMPARTMENT IS EQUIPPED WITH A REMOVABLE COVER ON THE FRONT TO PROVIDE ACCESS TO THE INTERIOR. ON THE INSIDE OF THE UNIT COMPARTMENT IS A HAND SHUT OFF VALVE, WHICH CAN BE CLOSED WHEN THE COLD WELL ON TOP IS NOT BEING USED.

6. **OUTER SHELL**--THE ABOVE COMPARTMENTS OF THE REFRIGERATOR ARE ENCLOSED IN A STAINLESS STEEL SHELL OR CABINET.

GENERAL THEORY OF OPERATION

THE CONTROL OF A CONSTANT AND CORRECT TEMPERATURE IN A CABINET DEPENDS ON THE INTERMITTENT CIRCULATION AND EVAPORATION OF A FIXED SUPPLY OF REFRIGERANT IN THE EVAPORATOR.

WITH THE TEMPERATURE CONTROL'S SENSITIVE FEELER BULB ELEMENT LOCATED INSIDE THE CABINET, THE MOTOR COMPRESSOR PUMPS THE HEAT LADEN VAPOR OUT OF THE EVAPORATOR. DOWN THE SUCTION LINE AND INTO THE COMPRESSOR. THIS LOW PRESSURE VAPOR IS SUCKED INTO THE CYLINDERS, COMPRESSED AND FORCED OUT THROUGH THE DISCHARGE VALVES, AS A HIGH PRESSURED VAPOR, INTO THE CONDENSOR.

THE SYSTEM FROM THE EXPANSION VALVE OUTLET TO THE DISCHARGE VALVE IN THE COMPRESSOR IS CALLED THE LOW PRESSURE SIDE OF THE SYSTEM.

AS THE HIGH PRESSURE VAPOR ENTERS THE CONDENSER. THE HIGH TEMPERATURE VAPOR LOSES IT'S HEAT TO THE AIR-COOLED CONDENSER. THIS RESULTS IN THE HIGH PRESSURED VAPOR BEING CONDENSED INTO A LIQUID REFRIGERANT. THIS LIQUID THEN PASSES THROUGH THE LIQUID LINE INTO THE EVAPORATOR.

THE PART OF THE SYSTEM FROM THE DISCHARGE VALVE, THROUGH THE CONDENSER AND LIQUID LINE, TO THE INLET OF THE EXPANSION VALVE IS CALLED THE HIGH PRESSURE SIDE OF THE SYSTEM.

THE LIQUID REFRIGERANT IN THE EVAPORATOR IS SUBJECT TO A MUCH LOWER PRESSURE, DUE TO THE SUCTION OF THE COMPRESSOR, THEREFORE EVAPORATION OF THE LIQUID REFRIGERANT TAKES PLACE AT A REDUCED PRESSURE AND TEMPERATURE WITH THE RESULT THAT HEAT IS REMOVED FROM THE REFRIGERATED AREA. AS THE PRESSURE AND TEMPERATURE IN THE EVAPORATOR IS BEING LOWERED BY THE COMPRESSOR SUCTION, A POINT IS REACHED WHERE SUFFICIENT HEAT HAS BEEN REMOVED FROM THE REFRIGERATED AREA TO LOWER THE TEMPERATURE TO A POINT WHERE THE TEMPERATURE CONTROL WILL BREAK THE ELECTRIC CIRCUIT AND STOP THE COMPRESSOR. THE LOWERED SUCTION PRESSURE WILL RISE AGAIN, WHEN THE TEMPERATURE IN THE CABINET RISES AND THE TEMPERATURE CONTROL SENSES THIS AND TURNS THE COMPRESSOR BACK ON REPEATS THE ENTIRE PROCESS.

INSTALLATION

UNCRATING:
ALL REFRIGERATORS AND FREEZERS ARE STRONGLY CRATED TO INSURE DELIVERY IN GOOD CONDITION UNDER ORDINARY HANDLING BY COMMERCIAL CARRIERS. HOWEVER, IT IS IMPORTANT THAT INSPECTION FOR POSSIBLE DAMAGE IN TRANSIT BE MADE **IMMEDIATELY** UPON RECEIPT OF THE UNIT.

NOTICE! ANY VISIBLE DAMAGE TO THE CRATE, OR TO THE UNIT ITSELF SHOULD BE NOTED ON THE CARRIER DELIVERY RECEIPT! THIS SIGNIFIES THAT A CLAIM FOR DAMAGES WILL BE MADE.

REMOVAL OF DOOR:
IF FOR ANY REASON THE DOOR HAS TO BE REMOVED, REMOVE THE HINGE COVERS, AND THEN REMOVE THE SCREWS HOLDING THE HINGE AND DOOR TO THE FACE OF THE REFRIGERATOR. **CAUTION! DO NOT REMOVE HINGES FROM DOORS.**

LOCATION:
IT IS IMPORTANT THAT THERE IS FREE CIRCULATION OF DRY, COOL, CLEAN AIR AROUND THE REFRIGERATOR OR FREEZER. OBTAIN BEST VENTILATION POSSIBLE. KEEP THE UNIT AT SOME DISTANCE FROM FURNACES, OVENS, ETC. AVOID LOCATIONS WHERE THE ROOM TEMPERATURE WILL DROP BELOW THE TEMPERATURE TO BE MAINTAINED IN THE REFRIGERATOR. KEEP AT LEAST 3" CLEARANCE AT THE BACK, AND AT EACH END TO ALLOW FOR BEST VENTILATION.

LEVELING:
WHEN THE REFRIGERATOR OR FREEZER IS IN PROPER POSITION, MAKE SURE IT IS SITTING LEVEL FROM SIDE TO SIDE AND FROM FRONT TO REAR.

DOOR SEAL:
CLOSE DOOR(S) AND CHECK EACH DOOR FOR PROPER GASKET SEAL. THE GASKET SHOULD SEAT ON THE FRONT SURFACE OF THE UNIT, THIS IS TO PREVENT LEAKAGE OF AIR INTO THE REFRIGERATOR OR FREEZER. IF ADJUSTMENT IS NECESSARY, **LOOSEN** DOOR STRIKE LOCATED ON THE BODY OF THE UNIT.
MOVE STRIKE OUTWARD TO **DECREASE** GASKET PRESSURE. MOVE STRIKE INWARD TO **INCREASE** PRESSURE. MOVE THE STRIKE IN OR OUT A BIT AT A TIME. WHEN PROPER ADJUSTMENT HAS BEEN MADE, BE SURE THE HOLDING SCREWS ARE TIGHTENED.
NOTE: PROPER ADJUSTMENT CAN BE DETERMINED BY INSERTING A PIECE OF PAPER BETWEEN THE DOOR GASKET AND FRONT DOOR GASKET HITTING SURFACE. PAPER SHOULD INDICATE DRAG COMPLETELY AROUND THE DOOR.

SHELVES:
SHELVES ARE SUPPORTED ON SMALL BRACKETS CALLED PILASTER CLIPS. WHICH ARE SET INTO VERTICAL PILASTER STRIPS FASTENED TO THE WALLS OF THE REFRIGERATOR. EACH SHELF IS SUPPORTED BY FOUR PILASTER CLIPS. PILASTER CLIPS ARE LOOSENED BY RAISING THE BOTTOM PART UP AND OUT AND MAY BE MOVED UP OR DOWN TO ADJUST THE HEIGHT OF THE SHELF ON 1/2" SPACINGS. NOTE THAT THE HOLES AT THE SAME LEVEL HAVE A CORRESPONDING NUMBER TO PERMIT QUICK AND EASY SHELF ADJUSTMENT.

POWER REQUIREMENTS:
THE UNIT IS NOW READY TO BE CONNECTED TO A SUITABLE POWER OUTLET.
CAUTION!! CHECK THE ELECTRICAL REQUIREMENTS ON THE IDENTIFICATION PLATE, WHICH IS LOCATED INSIDE THE REFRIGERATOR OR FREEZER ON THE FRONT TOP RIGHT CORNER OF THE INNER LINER. MAKE SURE THE POWER BEING SUPPLIED IS SAME AS ON THE IDENTIFICATION PLATE.
CAUTION!! BE SURE THAT THE POWER LINE TO WHICH THE REFRIGERATOR OR FREEZER IS CONNECTED, IS A CONTINUOUS CIRCUIT, AND CANNOT BE ACCIDENTALLY CUT OFF OR CONTROLLED BY SOME TYPE OF TIME SWITCH CUT-OFF. OBTAIN A SEPARATE CIRCUIT FOR PROPER OPERATION OF THE UNIT.
CAUTION!! FOR SATISFACTORY OPERATION, THE VOLTAGE SUPPLY SHOULD NOT VARY MORE THAN PLUS OR MINUS 10% OF THE REQUIRED OPERATING VOLTAGE.

STARTING COMPRESSOR:
CAUTION! DO NOT TURN OR CHANGE ANY SERVICE VALVE OR CONTROL SETTINGS. ALL SERVICE VALVES ARE LEFT IN THE OPEN POSITION, ON SELF CONTAINED, HERMETICALLY SEALED SYSTEMS, DURING THE TEST RUN, BEFORE BEING SHIPPED FROM THE FACTORY. CONNECT THE ELECTRICAL CURRENT TO THE JUNCTION BOX LOCATED IN THE UNIT COMPARTMENT.

NEXT, CHECK THE ELECTRICAL SUPPLY TO BE SURE POWER IS BEING RECEIVED AT THE JUNCTION BOX BY USING A TEST LIGHT. IF CURRENT IS BEING RECEIVED, THE TEST LIGHT WILL LIGHT UP. THE UNIT IS NOW READY TO START. MOVE THE SWITCH IN CONTROL PANEL TO **"ON"** POSITION.

CONTROLS AND ADJUSTMENTS:
ALL CONTROLS ARE FACTORY SET FOR PROPER OPERATION. THEY SHOULD NOT BE CHANGED UNLESS IT IS SHOWN BY USE OF AN ACCURATE THERMOMETER THAT THE CABINET IS NOT HOLDING CORRECT OPERATING TEMPERATURE. THE REFRIGERATOR IS DESIGNED FOR A TEMPERATURE OF (38 D/F) PLUS OR MINUS (2D/F).

OPERATION

LOADING:
IT IS IMPORTANT THAT REFRIGERATOR OR FREEZER IS NOT LOADED WITH PERISHABLES UNTIL THE INSIDE TEMPERATURE HAS BEEN BROUGHT DOWN TO THE PROPER OPERATING LEVEL. AFTER STARTING THE REFRIGERATION UNIT, ALLOW IT TO OPERATE FOR ABOUT FOUR HOURS BEFORE LOADING. DO NOT OVERLOAD, OR PACK FOOD PRODUCTS TIGHTLY. LEAVE ROOM FOR CIRCULATING COOL AIR.

MAINTENANCE

CLEANING:
EXTERIOR AND/OR INTERIOR (STAINLESS STEEL): WASH WITH MILD SOAP SOLUTION, RINSE WITH CLEAN WATER, WIPE DRY WITH CLEAN SOFT CLOTH.
CAUTION! DO NOT USE ABRASIVE CLEANERS.

ABOUT ONCE A MONTH CLEAN DOOR GASKET WITH A MILD SOAP AND WATER SOLUTION. BE SURE TO WIPE THOROUGHLY DRY.

DISCONNECTING:
IF THE REFRIGERATOR OR FREEZER IS NOT TO BE USED FOR AN EXTENDED PERIOD OF TIME, DISCONNECT THE ELECTRIC PLUG AND OPEN THE DOORS. AS SOON AS THE UNIT HAS HAD A CHANCE TO WARM UP TO ROOM TEMPERATURE, WIPE ALL PARTS DRY. LEAVE ALL DOORS OPEN AND LATER CHECK TO SEE THAT NO MOISTURE HAS COLLECTED ON ANY OF THE PARTS.

CONDENSERS:
WARNING! DISCONNECT THE CONDENSING UNIT FROM THE POWER LINE BEFORE WORKING AROUND THE CONDENSER.

IT IS IMPORTANT THAT THERE IS A FREE CIRCULATION OF AIR AROUND AND THROUGH THE CONDENSER. THE CONDENSER MUST BE KEPT CLEAN AT ALL TIMES. UNSATISFACTORY OPERATION WILL RESULT FROM FAILURE TO OBSERVE THESE POINTS. INSPECT THE CONDENSER FREQUENTLY. CLEAN DUST AND OTHER OBSTRUCTIONS FROM CONDENSER WITH VACUUM CLEANER OR BRISTLE BRUSH.
DO NOT USE WIRE BRUSH!

TROUBLE SHOOTING CHART

OBSERVATION	PROBABLE CAUSE	REMEDY
UNIT DOES NOT OPERATE	1.POWER FAILURE AT SOURCE	DETERMINE CAUSE&CORRECT
	2.MAIN SWITCH OPEN	CLOSE SWITCH
	3.BURNED OUT FUSE	REPLACE
	4.CONTROL OUT OF ADJUSTMENT	ADJUST
	5.CONTROL DEFECTIVE	REPLACE
	6 LOW VOLTAGE	CORRECT LINE VOLTAGE
	7.DEFECTIVE OVERLOAD PROTECTOR	REPLACE
	8.DEFECTIVE RELAY	REPLACE
	9.DEFECTIVE CAPACITOR	REPLACE
UNIT DOES NOT SHUT OFF	1.CONTROL OUT OF ADJUSTMENT	CHECK TEMP. AND ADJUST CONTROL
	2.CONTROL DEFECTIVE	REPLACE
	3.UNDERCHARGE OF REFRIGERANT	ADD REFRIGERANT
	4.DIRTY CONDENSER	CLEAN
	5.AIR TEMP. TOO HIGH	PROVIDE SUFFICIENT AIR FLOW OVER CONDENSER
	6.CONDENSER FAN INOPERATIVE	REPLACE
	7.AIR RESTRICTION DUE TO OVER CROWDED SHELVES	REARRANGE PRODUCT FOR BETTER CIRCULATION
	8.COMPRESSOR INEFFICIENT	REPLACE COMPRESSOR
	9.EXPANSION VALVE STUCK	REPAIR OR REPLACE
	10.POOR CONTACT, TX VALVE BULB TO SUCTION LINE	TIGHTEN CLAMP HOLDING BULB TO SUCTION LINE
HIGH HEAD PRESSURE	1.AIR IN SYSTEM	PURGE
	2.OVERCHARGE OF REFRIGERANT	PURGE
	3.DIRTY CONDENSER	CLEAN-SEE CONDENSERS
	4.AIR TEMP HIGH	PROVIDE SUFFICIENT AIR FLOW OVER CONDENSER
LOW HEAD PRESSURE	1.UNDERCHARGE OF REFRIGERANT	ADD REFRIGERANT
	2.BROKEN SUCTION VALVE LEAF	REPLACE COMPRESSOR
	3.OPERATING IN TOO LOW ROOM TEMP	RELOCATE UNIT OR RAISE ROOM TEMP
SHORT CYCLING	1.CONTROL OUT OF ADJUSTMENT	ADJUST CONTROL DIFFERENTIAL SET TOO CLOSE

REPLACEMENT INSTRUCTIONS

MOTOR COMPRESSOR:

1. DISCONNECT MOTOR COMPRESSOR FROM POWER CIRCUIT FROM CONTROL.
2. PURGE ENTIRE REFRIGERANT CHARGE. RECLAIM REFRIGERANT IF POSSIBLE
3. REMOVE BURNED OUT MOTOR COMPRESSOR AND MOUNT REPLACEMENT. **(DO NOT CONNECT SUCTION AND DISCHARGE LINE)**
4. ATTACH REFRIGERANT DRUM TO SUCTION LINE; PURGE LOW SIDE SYSTEM.
5. INSTALL NEW FILTER DRIER, CONNECT LIQUID AND SUCTION LINES, PULL DEEP VACUUM ON ENTIRE SYSTEM.
6. RE-CONNECT MOTOR COMPRESSOR TO POWER CIRCUIT, AND CONTROL.

CONTROLS:

1. DISCONNECT REFRIGERATOR OR FREEZER FROM POWER CIRCUIT.
2. REMOVE CONTROL COVER. REMOVE LEADS FROM TERMINALS.**NOTE POSITION OF WIRES FOR REPLACING ON PROPER TERMINALS**
3. DISCONNECT FEELER BULB AND REMOVE CAPILLARY TUBE FROM INSIDE UNIT.
4. REMOVE BOLTS HOLDING CONTROL TO BASE FRAME. REMOVE CONTROL AND INSTALL NEW CONTROL FOLLOWING ABOVE PROCEDURE IN REVERSE.

GASKETS: (DOOR)

1. THE DOOR GASKET IS A COMPRESSION STYLE, SNAP IN GASKET. TO REPLACE, MERELY PULL ORIGINAL GASKET FROM DOOR AND SNAP IN NEW GASKET INTO THE TRANSITION PIECE SLOT.

HANDLE:

TO REMOVE THE EDGEMOUNT HANDLE, REMOVE (3) SCREWS ON SIDE OF HANDLE.

HINGES:

1. OPEN DOOR, SNAP HINGE COVER LOOSE FROM INSIDE EDGE OF HINGE WITH SCREWDRIVER.
2. CLOSE DOOR, REMOVE SCREWS HOLDING HINGE TO DOOR AND CABINET. POSITION NEW HINGE AND REPLACE SCREWS.

DEHYDRATOR:

1. CLOSE LIQUID SERVICE VALVE, RUN COMPRESSOR AND PUMP REFRIGERANT INTO RECEIVER TANK UNTIL 0 LBS. PRESSURE READING IS OBTAINED ON BACK PRESSURE GAUGE, CLOSE SUCTION SERVICE VALVE.
2. REMOVE DEHYDRATOR FROM LIQUID LINE, INSTALL NEW DEHYDRATOR, CHARGE SYSTEM, CHECK FOR LEAKS.

ANTI-SWEAT AND MULLION HEATERS:

1. TURN OFF POWER
2. REMOVE PLASTIC RETAINER STRIP.
3. DISCONNECT HEATER WIRE AND REMOVE.

REPLACEMENT INSTRUCTIONS

EXPANSION VALVES:

1. CLOSE LIQUID SERVICE VALVE, RUN COMPRESSOR AND PUMP REFRIGERANT INTO RECEIVER TANK UNTIL 0 LBS. PRESSURE IS OBTAINED ON BACK PRESSURE GAUGE, CLOSE SUCTION SERVICE VALVE.
2. DISCONNECT VALVE FEELER BULB FROM CLAMP ON SUCTION LINE.
3. DISCONNECT FLARE FITTINGS AT INLET AND OUTLET OF VALVE. REMOVE VALVE.
4. INSTALL NEW VALVE, RECONNECT FLARE FITTINGS, FEELER BULB TO SUCTION LINE, RECHARGE SYSTEM, CHECK FOR LEAKS.

CHARGING REFRIGERATION SYSTEM:

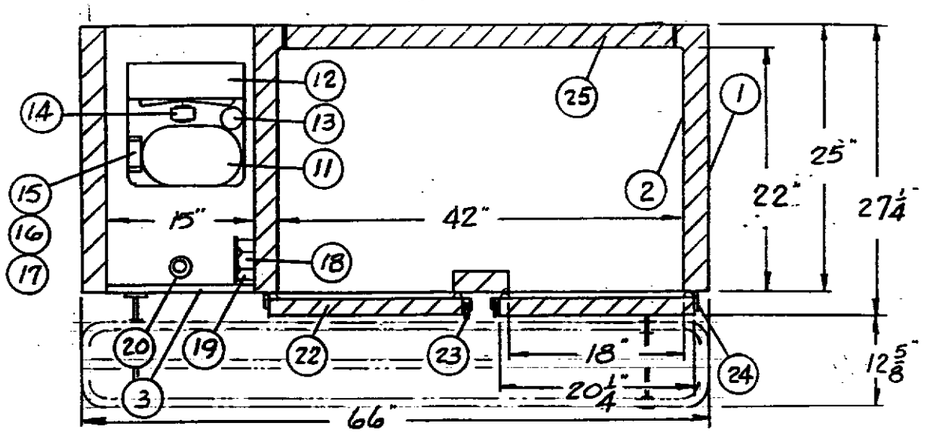
1. ATTACH GAUGE MANIFOLD LINES TO LIQUID AND SUCTION SERVICE VALVE PORTS, AND OPEN SERVICE VALVES.
2. PURGE SYSTEM, PULL A VACUUM ON THE SYSTEM THROUGH THE GAUGE MANIFOLD TO A 30" VACUUM.
3. CORRECT CHARGE OF REFRIGERANT IS NOTED ON THE DATA PLATE. ADD THE CORRECT AMOUNT AND TYPE OF REFRIGERANT.
4. CLOSE SERVICE VALVES AND REMOVE GAUGE MANIFOLD.

PRESSURE GAUGE READINGS:

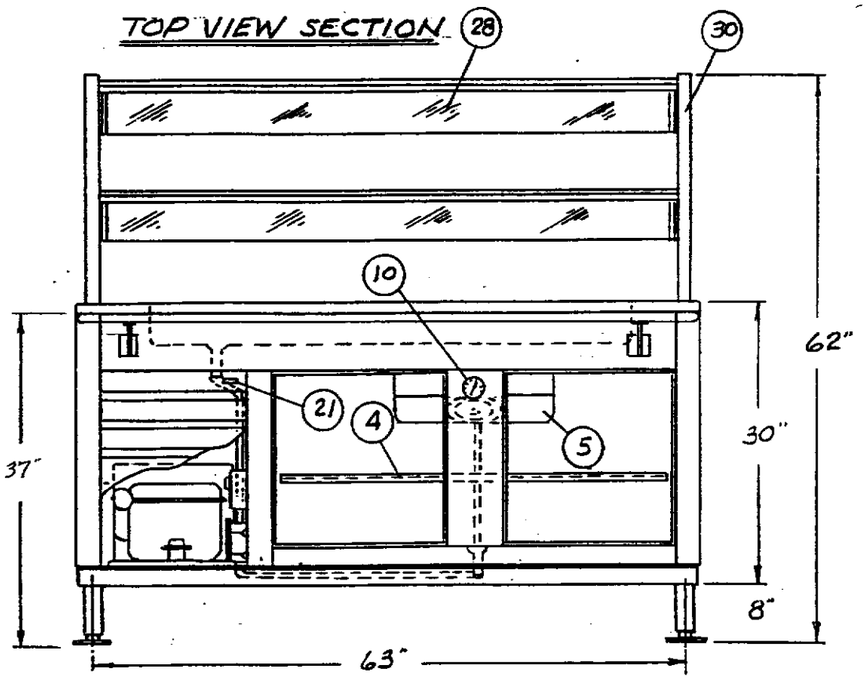
NORMAL OPERATING PRESSURE RANGE AT (75 F) AMBIENT (ROOM) TEMPERATURE.

PARTS LIST NAV-4-HT-BC-2

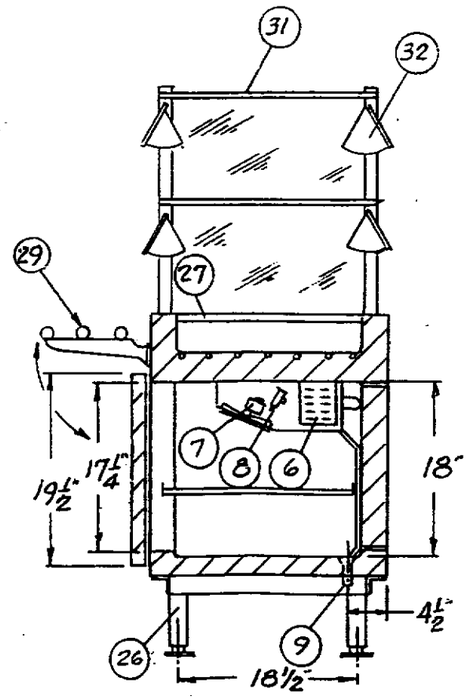
DESCRIPTION	MFGR	PART#
CONTROL	JOHNSON	A19ABC24
EXPANSION VALVE	ALCO	AA 1/4 MC
EVAP FAN MOTOR	BOHN	TA 13-3
COMPRESSOR	TECUMSEH	AEA4440YXA
MOTOR, COND FAN	TECUMSEH	810M006B45
RELAY	TECUMSEH	8200EMBH20
CAPACITOR	TECUMSEH	855S110C14
RECEIVER	TECUMSEH	51080
OVERLOAD	TECUMSEH	8300MRAC19
THERMOMETER	MILJOCO	V20362102
HINGE, DOOR	COMPONENT	R42-2842
HANDLE, DOOR	COMPONENT	R35-1105-C
GASKET, DOOR	RTF MFG	04-003-CFC
DOOR	RTF MFG	05-003-CFC



TOP VIEW SECTION



FRONT VIEW - LESS DOORS



RIGHT END SECTION

BILL OF MATERIAL

ITEM	DESCRIPTION	MATERIAL	REMARKS
1	OUTER SHELL	STAINLESS STEEL	304-#4
2	LINER	STAINLESS STEEL	304-#4
3	HATCH COVER	STAINLESS STEEL	304-#4
4	SPILL PROOF SHELF	ADJUSTABLE	2
5	BLOWER HOUSING	TA13-1	1
6	EVAPORATOR	TA13-2	1
7	FAN MOTOR & BLADE	TA13-3	1
8	EXPANSION VALVE	AA1/4 MC	1
9	DRAIN	1" M.P.T. PVC	2
10	DIAL THERMOMETER	2" DIA. V20362102	1
11	COMPRESSOR (SLIDE-OUT)	AEA4440YXA	1
12	CONDENSER	50823	1
13	RECEIVER	51080	1
14	CONDENSER FAN & MTR.	810M006B45	1
15	CAPACITOR	855S110C14	1
16	RELAY	8200EMBH20	1
17	OVERLOAD	8300MRAC19	1
18	TEMPERATURE CONTROL	A19ABC24	1
19	JUNCTION BOX	RAC 660	1
20	SOLENOID VALVE	200RB2T2AMG	1
21	COLD PAN SWITCH	SPST 15AMP	1
22	DOOR	RTF MFG.	2
23	DOOR HANDLE TO RECEIVE PADLOCK	R35-1105C	2
24	DOOR HINGE	R42-2842	4
25	INSULATION	URETHANE FOAM	
26	ADJUSTABLE LEG 8"	1052-0624-1755	4
27	COLD PAN COVER	STAINLESS STEEL	2
28	SNEEZE GUARD ASS'Y.	RTF MFG.	1
29	TRAY RAIL ASSEMBLY	RTF MFG. (COLLAPSIBLE)	1
30	POST	#16 GA. S/S TUBE	4
31	SHELVES	#18 GA. S/S	2
32	BREATH GUARDS	REMOVABLE PLEXIGLASS	4
	REFRIGERANT	134A	

* TRAY RAIL ON SERVING SIDE (REV. B 3/30/98)

DESIGN & CONSTRUCTION IN ACCORDANCE WITH MIL-C-43300G

REV. A - TRAY RAIL CLOSED ENDS - 8" LEGS - SLIDE-OUT UNIT - COLLAPSIBLE TRAY RAIL - LOCATE DRAIN - PADLOCK DOOR HANDLE

FJN 2-17-98

MODEL NAV-4-HT-BC-2-					RTF MANUFACTURING	REV. B
DRAW	DATE	CHK	DATE	SCALE	PART NAME SPEC. SHEET	
FRANK W.	10-28-97				PART NO. MODULAR CONSTRUCTION	

WARRANTY CERTIFICATE

WE WARRANT TO THE ORIGINAL PURCHASER THAT THIS REFRIGERATOR OR FREEZER WILL BE FREE FROM DEFECTS IN MATERIAL AND WORKMANSHIP UNDER NORMAL USE AND SERVICE AS DETERMINED BY US. WE WILL WITHIN ONE YEAR FROM DATE OF ORIGINAL INSTALLATION OR EIGHTEEN MONTHS FROM DATE OF ORIGINAL SHIPMENT FROM THE FACTORY, WHICHEVER IS SOONER, REPLACE WITHOUT CHARGE, ANY PART OR PORTION THEREOF, WHICH IS RETURNED TO US, TRANSPORTATION CHARGES PREPAID TO THE FACTORY, AND WHICH UPON EXAMINATION SHALL DISCLOSE TO OUR SATISFACTION TO BE THUS DEFECTIVE. THE COMPRESSOR IS WARRANTED FOR FIVE (5) YEARS.

THIS WARRANTY DOES NOT APPLY TO ANY REPLACEMENT NECESSITATED BY ANY OTHER CAUSES, INCLUDING, BUT NOT LIMITED TO, ANY REFRIGERATOR OR FREEZER WHICH HAS BEEN SUBJECT TO ABUSE, MISUSE, NEGLECT, ALTERATION UNAUTHORIZED BY US, ACCIDENT OR DAMAGE BY FIRE, ACT OF GOD, OR IN TRANSIT, AND IS IN LIEU OF ALL OTHER WARRANTIES EXCEPT SUCH AS MAY BE SET FORTH IN WRITING AND SIGNED BY US. THIS WARRANTY DOES NOT COVER ANY LABOR COST FOR REPLACING DEFECTIVE PARTS.

WE SHALL NOT BE LIABLE FOR DAMAGE OR LOSS DUE TO ANY DELAYS IN REPLACEMENT OR FOR ANY CONSEQUENTIAL DAMAGES.

BE ADVISED THAT REMOVAL OF ORIGINAL SERIAL NUMBERS OR DEVIATION FROM THE PUBLISHED INSTALLATION OR OPERATING INSTRUCTIONS, OR FROM THE RATED CAPACITY OF THE REFRIGERATOR OR FREEZER WHEN NOT AUTHORIZED IN WRITING BY US, INVALIDATES THIS WARRANTY.

THIS WARRANTY MAY NOT BE MODIFIED EXCEPT IN WRITING SIGNED BY US.

RTF MANUFACTURING

Ref: NAVSEAINST 4160.3A NAVSEA S0005-AA-GYD-030/TMMP

NAVSEA/SPAWAR TECHNICAL MANUAL DEFICIENCY/EVALUATION REPORT (TMDER)

INSTRUCTIONS: Continue on 8 ½" x 11" page if additional space is needed.
1. Use this report to indicate deficiencies, problems and recommendations relating to publications.
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